

RF Exposure Report

Report No.: SA180305C20

FCC ID: ZOQVT-410

Test Model: VT-410

Received Date: Mar. 05, 2018

Date of Evaluation: Apr. 24, 2018

Issued Date: May 04, 2018

Applicant: Verizon Connect.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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FCC Registration /
Designation Number: 788550 / TW0003



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Release Control Record

| Issue No. | Description | Date Issued |
|-------------|------------------|--------------|
| SA180305C20 | Original Release | May 04, 2018 |

1 Certificate of Conformity

Product: OBD2 LTE/3G/GPS/WIFI/BT tracker

Brand: Verizon Telematics Inc.

Test Model: VT-410

Sample Status: Production Unit

Applicant: Verizon Connect.

Date of Evaluation: Apr. 24, 2018

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

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Approved by : Dylan Chiou, **Date:** May 04, 2018
Dylan Chiou / Project Engineer

2 RF Exposure

2.1 Limits For Maximum Permissible Exposure (MPE)

| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm ²) | Average Time (minutes) |
|---|-------------------------------|-------------------------------|-------------------------------------|------------------------|
| Limits For General Population / Uncontrolled Exposure | | | | |
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | (180/f ²)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | ... | ... | f/1500 | 30 |
| 1500-100,000 | ... | ... | 1.0 | 30 |

f = Frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

where

Pd = power density in mW/cm²

Pout = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.

So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

| Antenna Type | Frequency Band (MHz) | Antenna Gain (dBi) |
|--------------|---------------------------|--------------------|
| Metal | WCDMA II 1852.4-1907.6 | 2.49 |
| | WCDMA V 826.4-846.6 | 1.1 |
| | LTE 2 1850.7-1909.3 | 2.49 |
| | LTE 4 1710.7-1754.3 | 1.1 |
| | LTE 5 824.7-846.5 | 1.1 |
| | LTE 12 699.7-715.3 | 1.3 |
| | LTE 13 779.5-784.5 | 2.2 |
| | LTE 17 706.5-713.5 | 1.3 |
| | 2412-2462 | 0.15 |
| | 5180-5240 | 4.26 |
| | 5745-5825 | 4.26 |
| | Bluetooth 2402-2480 | 0.15 |

2.5 Calculation Result Of Maximum Conducted Power

| Frequency Band (MHz) | Max Power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) |
|---------------------------|-----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| WCDMA II 1852.4-1907.6 | 25.7 | 2.49 | 20 | 0.131 | 1 |
| WCDMA V 826.4-846.6 | 25.7 | 1.1 | 20 | 0.095 | 1 |
| LTE 2 1850.7-1909.3 | 25.7 | 2.49 | 20 | 0.131 | 1 |
| LTE 4 1710.7-1754.3 | 25.7 | 1.1 | 20 | 0.095 | 1 |
| LTE 5 824.7-846.5 | 25.7 | 1.1 | 20 | 0.095 | 1 |
| LTE 12 699.7-715.3 | 25.7 | 1.3 | 20 | 0.100 | 1 |
| LTE 13 779.5-784.5 | 25.7 | 2.2 | 20 | 0.123 | 1 |
| LTE 17 706.5-713.5 | 25.7 | 1.3 | 20 | 0.100 | 1 |
| 2412-2462 | 17.0 | 0.15 | 20 | 0.010 | 1 |
| 5180-5240 | 14.0 | 4.26 | 20 | 0.013 | 1 |
| 5745-5825 | 14.0 | 4.26 | 20 | 0.013 | 1 |
| Bluetooth 2402-2480 | 4.0 | 0.15 | 20 | 0.001 | 1 |

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 +etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WWAN + WLAN = 0.131 / 1 + 0.013 / 1 = 0.144

Therefore the maximum calculations of above situations are less than the “1” limit.

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